

THREE-PHASE HYBRID TYPE STEPPING MOTOR

ABSTRACT OF THE DISCLOSURE

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A three-phase hybrid type stepping motor of the present invention comprises a stator, a rotor arranged concentrically with the stator and with an air gap therebetween, six stator poles extending radially and formed at a regular pitch on the inner peripheral surface of an annular stator yoke, each of the stator poles having a plurality of small stator teeth at the tip end thereof, the rotor having two splitted rotor elements and a permanent magnet held therebetween and magnetized so as to form N and S poles in the axial direction thereof, fifty of small rotor teeth formed at a regular pitch on the outer peripheral surface of each of the rotor elements, the two splitted rotor elements being shifted from each other in angular position by a $1/2$ pitch of the small rotor teeth, wherein a permeance distribution of the small stator teeth is a vernier pitch balanced by a six or three order harmonic wave, and a tooth width ratio of the small rotor teeth with the small stator teeth is set to 0.35 - 0.45.